

PMC-EF2a

(2.04.02)

**U.S. DEPARTMENT OF ENERGY
EERE PROJECT MANAGEMENT CENTER
NEPA DETERMINATION**



RECIPIENT: The University of Mississippi

STATE: MS

PROJECT TITLE : Passive Acoustic Detection of Wind Turbine In-Flow Conditions for Active Control and Optimization

Funding Opportunity Announcement Number	Procurement Instrument Number	NEPA Control Number	CID Number
2010 CDP	DE-EE0003269	GFO-10-372	0

Based on my review of the information concerning the proposed action, as NEPA Compliance Officer (authorized under DOE Order 451.1A), I have made the following determination:

CX, EA, EIS APPENDIX AND NUMBER:

Description:

- A9** Information gathering (including, but not limited to, literature surveys, inventories, audits), data analysis (including computer modeling), document preparation (such as conceptual design or feasibility studies, analytical energy supply and demand studies), and dissemination (including, but not limited to, document mailings, publication, and distribution; and classroom training and informational programs), but not including site characterization or environmental monitoring.
- B3.6** Siting, construction (or modification), operation, and decommissioning of facilities for indoor bench-scale research projects and conventional laboratory operations (for example, preparation of chemical standards and sample analysis); small-scale research and development projects; and small-scale pilot projects (generally less than two years) conducted to verify a concept before demonstration actions. Construction (or modification) will be within or contiguous to an already developed area (where active utilities and currently used roads are readily accessible).
- B3.1** Onsite and offsite site characterization and environmental monitoring, including siting, construction (or modification), operation, and dismantlement or closing (abandonment) of characterization and monitoring devices and siting, construction, and associated operation of a small-scale laboratory building or renovation of a room in an existing building for sample analysis. Activities covered include, but are not limited to, site characterization and environmental monitoring under CERCLA and RCRA. Specific activities include, but are not limited to:

Rational for determination:

The University of Mississippi proposes to use federal funds to study and analyze wind data to predict wind gusts accurately that have detrimental effects on wind turbine lifespan. This research is aimed at reducing operating costs, protecting the wind turbine structure, and lowering wind turbine generated noise.

These project activities will involve using Sonic Detection and Ranging to estimate wind profiles in a wind farm, using ground based sensor array determination of wind velocities, creation of a wind turbine optimization computer model for manipulation of noise and performance, development of wireless sensors to be mounted on turbine blades for turbine health monitoring, and project management and reporting of findings.

Project work will take place both indoors and outside of the confines of the laboratory grounds. An R & D questionnaire has been submitted which thoroughly address the University's safety protocols.

This project comprises of information gathering and conventional research and development studies in existing laboratory facilities as well as field monitoring and testing of sensory equipment; therefore a CX A9, B3.6, and B3.1 will apply.

NEPA PROVISION

DOE has made a final NEPA determination for this award

Insert the following language in the award:

Note to Specialist :

None Given.

SIGNATURE OF THIS MEMORANDUM CONSTITUTES A RECORD OF THIS DECISION.

NEPA Compliance Officer Signature: _____

NEPA Compliance Officer

Date: _____

5/13/10

FIELD OFFICE MANAGER DETERMINATION☐ Field Office Manager review required**NCO REQUESTS THE FIELD OFFICE MANAGER REVIEW FOR THE FOLLOWING REASON:**

- ☐ Proposed action fits within a categorical exclusion but involves a high profile or controversial issue that warrants Field Office Manager's attention.
- ☐ Proposed action falls within an EA or EIS category and therefore requires Field Office Manager's review and determination.

BASED ON MY REVIEW I CONCUR WITH THE DETERMINATION OF THE NCO :

Field Office Manager's Signature: _____

Field Office Manager

Date: _____